

PD
11/18/97

et	Items	Description
S1	1499	CHIMER?(4N)OLIGONUCLEOTIDE?
S2	86	S1 AND (MUTAT? OR MUTAGEN?) AND PLANT?
S3	25	RD (unique items)
S4	17	S1 AND PLANT? AND (HOMOLOGOUS(5N)RECOMBINATION)
S5	8	RD (unique items)

>>>KWIC option is not available in file(s): 41, 77, 399

5/3,K/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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12083068 BIOSIS NO.: 199900377917

**Targeted manipulation of maize genes in vivo using *chimeric* RNA/DNA
oligonucleotides.**

AUTHOR: Zhu Tong; Peterson David J; Tagliani Laura; St Clair Grace;
Baszczynski Chris L(a); Bowen Ben
AUTHOR ADDRESS: (a)Trait and Technology Development, Pioneer Hi-Bred
International, Inc., 7250 N.W. 62nd Avenue, Jo**USA
JOURNAL: Proceedings of the National Academy of Sciences of the United
States of America 96 (15):p8768-8773 July 20, 1999
ISSN: 0027-8424
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

**Targeted manipulation of maize genes in vivo using *chimeric* RNA/DNA
oligonucleotides.**

ABSTRACT: Site-specific heritable mutations in maize genes were engineered
by introducing *chimeric* RNA/DNA *oligonucleotides*. Two independent
targets within the endogenous maize acetohydroxyacid synthase gene
sequence were modified in a site-specific fashion, thereby conferring
resistance to either imidazolinone or...

...herbicides. Similarly, an engineered green fluorescence protein
transgene was site-specifically modified in vivo. Expression of the
introduced inactive green fluorescence protein was restored, and *plants*
containing the modified transgene were regenerated. Progeny analysis
indicated Mendelian transmission of the converted transgene. The
efficiency of gene conversion mediated by *chimeric* *oligonucleotides*
in maize was estimated as 10-4, which is 1-3 orders of magnitude higher
than frequencies reported for gene targeting by *homologous*
recombination in *plants*. The heritable changes in maize genes
engineered by this approach create opportunities for basic studies of
plant genefunction and agricultural trait manipulation and also provide
a system for studying mismatch repair mechanisms in maize.

DESCRIPTORS:

...BIOSYSTEMATIC NAMES: Monocotyledones, Angiospermae, Spermatophyta,
Plantae
...BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): *Plants*; ...

...Vascular *Plants*

CHEMICALS & BIOCHEMICALS: *chimeric* RNA/DNA *oligonucleotides*--

5/3,K/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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12083051 BIOSIS NO.: 199900377900

Gene therapy in *plants*.

AUTHOR: Hohn Barbara(a); Puchta Holger
AUTHOR ADDRESS: (a)Friedrich Miescher Institut, CH-4002, Basel**Switzerland
JOURNAL: Proceedings of the National Academy of Sciences of the United
States of America 96 (15):p8321-8323 July 20, 1999

ISSN: 0027-8424
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: English

Gene therapy in *plants*.

DESCRIPTORS:

...BIOSYSTEMATIC NAMES: *Plantae*
...ORGANISMS: *plant* (*Plantae*)
...BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): *Plants*;
METHODS & EQUIPMENT: *chimeric* *oligonucleotide*-dependent mismatch
repair...

...*homologous* *recombination*-dependent gene targeting

BIOSYSTEMATIC CODES:

11000 *Plantae*-Unspecified...

5/3,K/3 (Item 3 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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11312086 BIOSIS NO.: 199800093418

Cloning-free PCR-based allele replacement methods.

AUTHOR: Erdeniz Naz; Mortensen Uffe H; Rothstein Rodney(a)

AUTHOR ADDRESS: (a)Dep. Genet. and Dev., Columbia Univ., Coll. Phys. and
Surgeons, New York, NY 10032-2704**USA

JOURNAL: Genome Research 7 (12):p1174-1183 Dec., 1997

ISSN: 1088-9051

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Efficient *homologous* *recombination* permits the directed
introduction of specific mutations into the yeast genome. Here we
describe a cloning-free, PCR-based allele replacement method that
simplifies allele...

...single copy of the new allele in the target strain. Specifically, the
desired allele is amplified by PCR with a pair of adaptamers, which are
chimeric *oligonucleotides* that are used to amplify the allele and
differentially tag its 5' and 3' ends. These tags allow the directed
fusion to two different, but overlapping, regions of an appropriately
tagged selectable/counterselectable marker after a second round of PCR
amplification. Following cotransformation of the two fusion fragments
into yeast, *homologous* *recombination* efficiently generates a
duplication of the amplified allele flanking the intact selectable marker
in the genome. After counterselection, only the desired allele is
retained as...

DESCRIPTORS:

...BIOSYSTEMATIC NAMES: Fungi, *Plantae*
...BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Nonvascular *Plants*;
Plants
CHEMICALS & BIOCHEMICALS: *chimeric* *oligonucleotides*

5/3,K/4 (Item 1 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

(c) 2001 Inst for Sci Info. All rts. reserv.

09734490 Genuine Article#: 443VF No. References: 34

**Title: Targeted correction of the point mutations of beta-thalassemia and
targeted mutagenesis of the nucleotide associated with HPFH by RNA/DNA
oligonucleotides: Potential for beta-thalassemia gene therapy**

Author(s): Li ZH; Liu DP (REPRINT) ; Yin WX; Guo ZC; Liang CC

Corporate Source: Chinese Acad Med Sci,Inst Basic Med Sci, Natl Lab Med Mol
Biol,Beijing 10005//Peoples R China/ (REPRINT); Chinese Acad Med

Sci,Inst Basic Med Sci, Natl Lab Med Mol Biol,Beijing 10005//Peoples R
China/; Peking Union Med Coll,Beijing 10005//Peoples R China/
Journal: BLOOD CELLS MOLECULES AND DISEASES, 2001, V27, N2 (MAR-APR), P
530-538
ISSN: 1079-9796 Publication date: 20010300
Publisher: ACADEMIC PRESS INC, 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495
USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Abstract: An RNA/DNA *chimeric* *oligonucleotide* was found to be effective
in the targeted correction of point mutations in Escherichia coli,
plant, and mammalian genomes. This strategy, named chimeraplasty, has
the potential for gene therapy of many genetic diseases caused by point
mutations. beta -Thalassemia is a...
...Identifiers--RNA-DNA OLIGONUCLEOTIDE; LOCUS-CONTROL REGION; GLOBIN GENE;
HIGH-LEVEL; *HOMOLOGOUS* *RECOMBINATION*; TRANSGENIC MICE; IN-VIVO;
CELLS; EXPRESSION; REPAIR

5/3,K/5 (Item 2 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

09569734 Genuine Article#: 419YY No. References: 40

Title: Controlling transgene integration in *plants*

Author(s): Kumar S (REPRINT) ; Fladung M

Corporate Source: Fed Res Ctr Forestry & Forest Prod,Inst Forest Genet &
Forest Tree Breeding,Sieker Land Str 2/D-22927 Grosshansdorf//Germany/
(REPRINT); Fed Res Ctr Forestry & Forest Prod,Inst Forest Genet &
Forest Tree Breeding,D-22927 Grosshansdorf//Germany/

Journal: TRENDS IN PLANT SCIENCE, 2001, V6, N4 (APR), P155-159

ISSN: 1360-1385 Publication date: 20010400

Publisher: ELSEVIER SCIENCE LONDON, 84 THEOBALDS RD, LONDON WC1X 8RR,
ENGLAND

Language: English Document Type: EDITORIAL MATERIAL (ABSTRACT AVAILABLE
)

Title: Controlling transgene integration in *plants*

Abstract: The creation of transgenic *plants* has brought significant
advances to light in *plant* biotechnology. However, in spite of the
fact that transgenic *plants* are beginning to be grown widely,
controlled transgene integration into a pre-determined site remains to
be achieved. Here we suggest two alternative approaches for gene
targeting in *plants*: manipulating the host and donor sequence, and
targeting during active *homologous* *recombination* stages.

...Identifiers--AGROBACTERIUM-MEDIATED TRANSFORMATION; *CHIMERIC* RNA/DNA
OLIGONUCLEOTIDES; SELECTABLE MARKER GENES; T-DNA LOCI; *HOMOLOGOUS*
RECOMBINATION; MOLECULAR CHARACTERIZATION; TARGETED DISRUPTION;
ARABIDOPSIS; CELLS; EXPRESSION

5/3,K/6 (Item 3 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

09536283 Genuine Article#: 418VY No. References: 26

Title: Oligonucleotide-directed *plant* gene targeting - Commentary

Author(s): Oh TJ (REPRINT) ; May GD

Corporate Source: Samuel Roberts Noble Fdn Inc,Div Plant Biol,2510 Sam
Noble Pkwy/Ardmore//OK/73402 (REPRINT); Samuel Roberts Noble Fdn
Inc,Div Plant Biol,Ardmore//OK/73402

Journal: CURRENT OPINION IN BIOTECHNOLOGY, 2001, V12, N2 (APR), P169-172

ISSN: 0958-1669 Publication date: 20010400

Publisher: CURRENT BIOLOGY LTD, 84 THEOBALDS RD, LONDON WC1X 8RR, ENGLAND
Language: English Document Type: EDITORIAL MATERIAL

Title: Oligonucleotide-directed *plant* gene targeting - Commentary

...Identifiers--*CHIMERIC* RNA/DNA *OLIGONUCLEOTIDES*; POSITIVE-NEGATIVE
SELECTION; *HOMOLOGOUS* *RECOMBINATION*; ARABIDOPSIS-THALIANA;
ANTISENSE RNA; DNA-DAMAGE; REPAIR; STRAND; DISRUPTION

5/3,K/7 (Item 1 from file: 266)

DIALOG(R)File 266:FEDRIP

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00286327

IDENTIFYING NO.: 5R29AI39201-05 AGENCY CODE: CRISP

REARRANGEMENT MECHANISMS OF CRITHIDIA RETROTRANSPOSONS

PRINCIPAL INVESTIGATOR: GABRIEL, ABRAM

ADDRESS: RUTGERS-STATE UNIV OF NEW JERS 679 HOES LANE PISCATAWAY, NJ
08855

PERFORMING ORG.: RUTGERS THE ST UNIV OF NJ NEW BRUNSWICK, NEW BRUNSWICK,
NEW JERSEY

SPONSORING ORG.: NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

FY : 2001

...SUMMARY: CRE2. CRE-elements are members of the little understood family of mobile genes known as non-LTR retrotransposons that are widely distributed in mammals, insects, *plants* , trypanosomatids, and fungi. Evidence suggests that this class of transposon is involved in such diverse processes as genome evolution, pseudogene formation, and human genetic disease...

... the genomic organization of CRE1 and related site-specific retrotransposons in the Crithidia miniexon array, and dissect the genetic mechanisms, including site-specific transposition and *homologous* *recombination* , by which CRE1 rearranges within the genome of C.fasciculata.

...DESCRIPTORS: genetic mapping; genetic marker; molecular cloning; gene rearrangement; open reading frame; restriction fragment length polymorphism ; gene conversion; western blotting; transposon /insertion element; nucleic acid sequence; *oligonucleotide*; RNA directed DNA polymerase; *chimeric* protein; Crithidia; northern blotting; southern blotting; enzyme activity; gel mobility shift assay; gene targeting

5/3,K/8 (Item 1 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

(c) 2001 AMERICAN CHEMICAL SOCIETY. All rts. reserv.

128098547 CA: 128(9)98547t PATENT

Chimeric mutational vectors having non-natural nucleotides for use in gene therapy and creation of transgenic organisms

INVENTOR(AUTHOR): Kmiec, Eric B.

LOCATION: USA

ASSIGNEE: Thomas Jefferson University

PATENT: PCT International ; WO 9748714 A1 DATE: 19971224

APPLICATION: WO 97US10538 (19970616) *US 664487 (19960617)

PAGES: 68 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07H-021/00A;

C12P-019/34B DESIGNATED COUNTRIES: AL; AM; AU; AZ; BA; BB; BG; BR; BY; CA; CN; CU; CZ; EE; GE; GH; HU; IL; IS; JP; KG; KP; KR; KZ; LC; LK; LR; LT; LV; MD; MG; MK; MN; MX; NO; NZ; PL; RO; RU; SG; SI; SK; TJ; TM; TR; TT; UA; UZ; VN; YU; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; KE; LS ; MW; SD; SZ; UG; ZW; AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; ML; MR; NE; SN; TD; TG

?

et	Items	Description
S1	1499	CHIMER?(4N)OLIGONUCLEOTIDE?
S2	86	S1 AND (MUTAT? OR MUTAGEN?) AND PLANT?
S3	25	RD (unique items)
S4	17	S1 AND PLANT? AND (HOMOLOGOUS(5N) RECOMBINATION)
S5	8	RD (unique items)
S6	29	(HOMOLOGOUS(5N) RECOMBINATION) AND (HERBICIDE(5N) RESISTANCE)
S7	23	RD (unique items)

>>>KWIC option is not available in file(s): 41, 77, 399

7/3,K/1 (Item 1 from file: 5)
 DIALOG(R) File 5: Biosis Previews(R)
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07270930 BIOSIS NO.: 000090050809

***HOMOLOGOUS* *RECOMBINATION* IN PLANT CELLS AFTER AGROBACTERIUM MEDIATED TRANSFORMATION**

AUTHOR: LEE K Y; LUND P; LOWE K; DUNSMUIR P
 AUTHOR ADDRESS: DNA PLANT TECHNOL., 6701 SAN PABLO AVE., OAKLAND, CALIF. 94608.
 JOURNAL: PLANT CELL 2 (5). 1990. 415-426. 1990
 FULL JOURNAL NAME: Plant Cell
 CODEN: PLCEE
 RECORD TYPE: Abstract
 LANGUAGE: ENGLISH

***HOMOLOGOUS* *RECOMBINATION* IN PLANT CELLS AFTER AGROBACTERIUM MEDIATED TRANSFORMATION**

ABSTRACT: A single amino-acid change in the acetolactate synthase (ALS) protein of tobacco [Nicotiana tabacum] confers *resistance* to the *herbicide* chlorsulfuron. A deleted, nonfunctional fragment from the acetolactate synthase gene, carrying the mutant site specifying chlorsulfuron resistance plus a closely linked novel restriction site marker...
 ...transformed with Agrobacterium tumefaciens carrying this vector yielded chlorsulfuron-resistant colonies. DNA gel blot analysis of DNA from these colonies suggested that in three transformants *homologous* *recombination* had occurred between the endogenous ALS gene and the deleted ALS gene present in the incoming T-DNA. Plants were regenerated from these chlorsulfuron-resistant...

7/3,K/2 (Item 1 from file: 6)
 DIALOG(R) File 6: NTIS
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1678132 NTIS Accession Number: PB92-225085

Gene Targeting via Site Specific Recombination in Plant Cells. Phase 1
 Dunsmuir, P.

Advanced Genetic Sciences, Inc., Oakland, CA.
 Corp. Source Codes: 092119000
 Sponsor: National Science Foundation, Washington, DC. Div. of Industrial Science and Technological Innovation.

Report No.: NSF/ISI-88032
 Aug 88 22p

Languages: English

Journal Announcement: GRAI9223

Sponsored by National Science Foundation, Washington, DC. Div. of Industrial Science and Technological Innovation.

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NTIS Prices: PC A03/MF A01

The objective of the research was to demonstrate and quantitate the

frequency of *homologous* *recombination* between chromosomal and extrachromosomal sequences in plant cells. Direct electroporation and Agrobacterium-mediated recombination were used to introduce a deleted form of a gene which confers *herbicide* *resistance* to plant cells. The frequency of herbicide resistant colonies derived from the transformation event was measured and compared with the frequency obtained by random insertion...

... insertion frequency. Molecular characterization of these herbicide resistant clones has not yet been performed; this is essential to establish that they are derived from an *homologous* *recombination* event.

7/3,K/3 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2001 Inst for Sci Info. All rts. reserv.

07873646 Genuine Article#: 219CB No. References: 34
Title: Targeted manipulation of maize genes in vivo using chimeric RNA/DNA oligonucleotides
Author(s): Zhu T; Peterson DJ; Tagliani L; StClair G; Baszczynski CL (REPRINT) ; Bowen B
Corporate Source: PIONEER HI BRED INT INC, TRAIT & TECHNOL DEV, 7250 NW 62ND AVE/JOHNSTON//IA/50131 (REPRINT); PIONEER HI BRED INT INC, TRAIT & TECHNOL DEV/JOHNSTON//IA/50131
Journal: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, 1999, V96, N15 (JUL 20), P8768-8773
ISSN: 0027-8424 Publication date: 19990720
Publisher: NATL ACAD SCIENCES, 2101 CONSTITUTION AVE NW, WASHINGTON, DC 20418
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Abstract: by chimeric oligonucleotides in maize was estimated as 10^{-4} , which is 1-3 orders of magnitude higher than frequencies reported for gene targeting by *homologous* *recombination* in plants. The heritable changes in maize genes engineered by this approach create opportunities for basic studies of plant gene function and agricultural trait manipulation...

...Identifiers--RNA-DNA OLIGONUCLEOTIDE; CELL-CYCLE CHECKPOINTS; *HERBICIDE*-*RESISTANCE*; ACETOHYDROXYACID SYNTHASE; *HOMOLOGOUS* *RECOMBINATION*; ARABIDOPSIS-THALIANA; MOLECULAR-BASIS; ZEA-MAYS; PLANTS; TRANSFORMATION

7/3,K/4 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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03145948 Genuine Article#: NH704 No. References: 69
Title: MOLECULAR ANALYSIS OF TRANSGENIC PLANTS GENERATED BY MICROPROJECTILE BOMBARDMENT - EFFECT OF PETUNIA TRANSFORMATION BOOSTER SEQUENCE
Author(s): BUISING CM; BENBOW RM
Corporate Source: IOWA STATE UNIV SCI & TECHNOL, DEPT ZOOL & GENET, NUCLE ACID RES FACIL/AMES//IA/50011; IOWA STATE UNIV SCI & TECHNOL, DEPT ZOOL & GENET, NUCLE ACID RES FACIL/AMES//IA/50011
Journal: MOLECULAR & GENERAL GENETICS, 1994, V243, N1 (APR 18), P71-81
ISSN: 0026-8925
Language: ENGLISH Document Type: ARTICLE (Abstract Available)

...Identifiers--YEAST REPLICATION ORIGIN; XENOPUS-LAEVIS EMBRYOS; PLASMID DNA-MOLECULES; BETA-D-GLUCURONIDASE; *HOMOLOGOUS* *RECOMBINATION*; STREPTOMYCES-HYGROSCOPICUS; *HERBICIDE*-*RESISTANCE*; SCAFFOLD ATTACHMENT; MUTATIONAL DEFECTS; QUANTITATIVE ASSAY

7/3,K/5 (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

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01963665 Genuine Article#: JQ146 No. References: 67

Title: NONRANDOM DISTRIBUTION OF CHLOROPLAST RECOMBINATION EVENTS IN CHLAMYDOMONAS-REINHARDTII - EVIDENCE FOR A HOTSPOT AND AN ADJACENT COLD REGION

Author(s): NEWMAN SM; HARRIS EH; JOHNSON AM; BOYNTON JE; GILLHAM NW

Corporate Source: DUKE UNIV,DEPT BOT/DURHAM//NC/27706; DUKE UNIV,DEPT ZOOL/DURHAM//NC/27706

Journal: GENETICS, 1992, V132, N2 (OCT), P413-429

ISSN: 0016-6731

Language: ENGLISH Document Type: ARTICLE (Abstract Available)

...Abstract: chloroplast genomes of the interfertile species Chlamydomonas reinhardtii and Chlamydomonas smithii. Recombinant progeny were selected from two- and three-factor crosses involving point mutations conferring *herbicide* (dr) and antibiotic *resistance* (er and spr) in the psbA, 23S and 16S ribosomal RNA genes, respectively. Exchange events were not randomly distributed over the 15-kb region, but...

...Identifiers--INVERTED REPEAT SEQUENCE; RIBOSOMAL-RNA GENES; SINGLE-COPY REGIONS; DNA TOPOISOMERASE-I; SACCHAROMYCES-CEREVISIAE; MEIOTIC *RECOMBINATION*; ESCHERICHIA-COLI; SCHIZOSACCHAROMYCES-POMBE; *HOMOLOGOUS* *RECOMBINATION*; CHROMOSOME-III

7/3,K/6 (Item 4 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

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00536150 Genuine Article#: EA353 No. References: 56

Title: EXTRACHROMOSOMAL *HOMOLOGOUS* *RECOMBINATION* AND GENE TARGETING IN PLANT-CELLS AFTER AGROBACTERIUM MEDIATED TRANSFORMATION

Author(s): OFFRINGA R; DEGROOT MJA; HAAGSMAN HJ; DOES MP; VANDENELZEN PJM; HOOYKAAS PJJ

Corporate Source: MOGEN INT NV,EINSTEINWEG 97/2333 CB LEIDEN//NETHERLANDS//LEIDEN STATE UNIV,DEPT PLANT MOLEC BIOL,CLUSIUSLABS/2333 AL LEIDEN//NETHERLANDS/

Journal: EMBO JOURNAL, 1990, V9, N10, P3077-3084

Language: ENGLISH Document Type: ARTICLE

Title: EXTRACHROMOSOMAL *HOMOLOGOUS* *RECOMBINATION* AND GENE TARGETING IN PLANT-CELLS AFTER AGROBACTERIUM MEDIATED TRANSFORMATION

...Research Fronts: 001 (HIGH-VOLTAGE ELECTROPORATION; INDUCTION OF EMBRYOGENIC TRITICUM-AESTIVUM L CALLI; ELECTROSTIMULATED TRANSFORMATION; EUKARYOTIC CELLS; PLASMID DNA)

88-0066 001 (TRANSGENIC PLANTS; AGROBACTERIUM-MEDIATED TRANSFORMATION; *HERBICIDE* *RESISTANCE*; ACETOLACTATE SYNTHASE; EXPRESSION OF FOREIGN GENES)

88-2187 001 (HIS4 TRANSLATIONAL INITIATOR REGION IN SACCHAROMYCES-CEREVISIAE; YEAST CHROMOSOMAL DNA; TRP1 GENE)

88-2416 001 (RHIZOBIUM...

7/3,K/7 (Item 1 from file: 144)

DIALOG(R)File 144:Pascal

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14584008 PASCAL No.: 00-0251371

Intrachromosomal recombination between attP regions as a tool to remove selectable marker genes from tobacco transgenes

ZUBKO E; SCUTT C; MEYER P

Leeds Institute for Plant Biotechnology and Agriculture (LIBA), Faculty of Biological Sciences, The University of Leeds, Leeds LS2 9JT, United Kingdom

Journal: Nature biotechnology, 2000, 18 (4) 442-445

Language: English

English Descriptors: Transgenic plant; Gene expression; Selection;
Resistance; Antibiotic; Nicotiana tabacum; *Herbicide*; Deletion;
Homologous *recombination*; Stimulant plant; Gene

French Descriptors: Plante transgenique; Expression genique; Selection;
Resistance; Antibiotique; Nicotiana tabacum; *Herbicide*; Deletion;
Recombinaison homologue; Plante stimulante; Gene

7/3,K/8 (Item 1 from file: 357)

DIALOG(R)File 357:Derwent Biotechnology Abs
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0264338 DBA Accession No.: 2001-04092

Genetic engineering of the chloroplast- plastid transformation in higher plant; a review

AUTHOR: Heifetz P B

CORPORATE AFFILIATE: Novartis-Agribus.Biotechnol.Res.

CORPORATE SOURCE: Novartis Agricultural Discovery Institute, Inc., 3115

Merryfield Row, Suite 100, San Diego, CA 92121-1125, USA.

email:peter.heifetz@nabri.novartis.com

JOURNAL: Biochimie (82, 6-7, 655-66) 2000

ISSN: 0300-9084 CODEN: BICMBE

LANGUAGE: English

...ABSTRACT: to express polycistronic messages from a single promoter; uniparental gene inheritance in most crop plants that prevents pollen transmission of foreign DNA; integration via a *homologous* *recombination* process that facilitates targeted gene replacement and precise transgene control; and sequestration of foreign proteins in the organelle, preventing adverse interactions with the cytoplasmic environment...

... negative selectable markers, issues and future directions); control of plastid gene expression; engineering of plastid metabolism; and engineering expression of foreign genes in plastids, for *herbicide* *resistance*, insect *resistance*, and for use of plastids as factories for protein/metabolite production. (116 ref)

7/3,K/9 (Item 2 from file: 357)

DIALOG(R)File 357:Derwent Biotechnology Abs
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0260700 DBA Accession No.: 2001-00276

Removal of antibiotic-resistance genes from transgenic tobacco plastids- aadA gene removal by *homologous* *recombination* and cytoplasmic sorting to reduce risk of gene transfer to environment or gut microorganism from genetically modified plant

AUTHOR: Iamtham S; +Day A

CORPORATE AFFILIATE: Univ.Manchester

CORPORATE SOURCE: 3.614 Stopford Building, School of Biological Sciences,

Manchester University, Oxford Road, Manchester M13 9PT, UK.

email:anil.day@man.ac.uk

JOURNAL: Nat.Biotechnol. (18, 11, 1172-76) 2000

ISSN: 1087-0156 CODEN: NABIF

LANGUAGE: English

- aadA gene removal by *homologous* *recombination* and cytoplasmic sorting to reduce risk of gene transfer to environment or gut microorganism from genetically modified plant

ABSTRACT: *Homologous* *recombination* was used to generate transplastomic tobacco (Nicotiana tabacum) cv. Wisconsin 38 plants free of antibiotic-resistance genes. Efficient plastid transformation requires the aadA gene, which...

... the gene are present per cell, increasing the risk of transfer to the environment or gut microbes. In novel plastid expression cassettes, reporter (uidA) and *herbicide* *resistance* (bar) coding regions flanked the aadA marker, and included direct repeats that mediated the antibiotic marker gene's excision through *homologous* *recombination* and plastid segregation. The first-generation plants were free of aadA, and subsequent crosses produced plants free of both aadA and bar genes. The size...

DESCRIPTORS: tobacco plastid transformation, antibiotic-resistance aadA marker gene removal, *homologous* *recombination*, cytoplasmic sorting Nicotiana tabacum genetically modified transgenic plant environment (Vol.20, No.1)

7/3,K/10 (Item 3 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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0252287 DBA Accession No.: 2000-06777 PATENT
New method for identifying *homologous* *recombination* in plant useful for selecting transgenic plants having desired traits, involves transforming cells with fusion polynucleotide sequence linked to reporter sequence- T-DNA binary transformation vector plasmid pSLJ7292-mediated RBCS1B::LUC-NOS terminator gene fusion expression in Arabidopsis thaliana using Agrobacterium tumefaciens
AUTHOR: Gruissem W; Jelesko J; Furuya M
CORPORATE SOURCE: Oakland, CA, USA; Saitama, Japan.
PATENT ASSIGNEE: Univ.California; Hitachi 2000
PATENT NUMBER: WO 200009728 PATENT DATE: 20000224 WPI ACCESSION NO.: 2000-224357 (2019)
PRIORITY APPLIC. NO.: US 134014 APPLIC. DATE: 19980814
NATIONAL APPLIC. NO.: WO 99US18447 APPLIC. DATE: 19990813
LANGUAGE: English

New method for identifying *homologous* *recombination* in plant useful for selecting transgenic plants having desired traits, involves transforming cells with fusion polynucleotide sequence linked to reporter sequence

ABSTRACT: Identifying *homologous* *recombination* in plant cells, is new and involves transforming plant cells with a nucleic acid molecule containing a fusion polynucleotide sequence (I) containing a protein sequence...

...linked to an endogenous promoter sequence containing a polynucleotide of interest linked to a non-selective reporter sequence. The method can be used for identifying *homologous* *recombination* in plant cells. The DNA construct can be used for transforming plant cells. The DNA construct can be used for transforming plant cells and for targeting endogenous genes, conferring *resistance* to pathogens, storage protein genes, *herbicide* *resistance* genes and genes involved in biosynthetic pathways. In an example, T-DNA binary transformation vector plasmid pSLJ7292 containing a RBCS1B::LUC-NOS terminator gene fusion...

DESCRIPTORS: Arabidopsis thaliana transgenic plant construction, T-DNA binary transformation vector plasmid pSLJ7292-mediated RBCS1B::LUC-NOS terminator gene fusion transfer, expression, Agrobacterium tumefaciens, appl. *homologous* *recombination*, gene transfer, disease-*resistance* , *herbicide* *resistance*, etc. DNA sequence protein sequence bacterium crop improvement (Vol.19, No.12)

7/3,K/11 (Item 4 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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0235962 DBA Accession No.: 99-06063 PATENT
New universal chloroplast integration and expression vector- derived from

tobacco, useful for recombinant protein production, e.g. insulin or protein polymer, and conferring *herbicide* *resistance* and insect *resistance* to crop and fruit

AUTHOR: Daniell H

CORPORATE SOURCE: Auburn University, AL, USA.

PATENT ASSIGNEE: Univ.Auburn 1999

PATENT NUMBER: WO 9910513 PATENT DATE: 990304 WPI ACCESSION NO.:

99-190626 (9916)

PRIORITY APPLIC. NO.: US 79640 APPLIC. DATE: 980515

NATIONAL APPLIC. NO.: WO 98IB1199 APPLIC. DATE: 980805

LANGUAGE: English

- derived from tobacco, useful for recombinant protein production, e.g. insulin or protein polymer, and conferring *herbicide* *resistance* and insect *resistance* to crop and fruit

...ABSTRACT: pSBL-RD-EPSPS, plasmid pSBL-CG-EG121, plasmid pSBL-Ct-V1, plasmid pSBL-Ct-VHBt, etc. Stable integration into the chloroplast genome is facilitated through *homologous* *recombination* of the flanking sequences with *homologous* sequences in the target chloroplast. Also new are: a vector including chloroplast tRNA genes; stably transformed plants; a DNA sequence comprising the intergenic plant chloroplast...

... products are used for transforming crops and fruits in order to produce proteins of interest such as insulin, human serum albumin or protein based polymers. *Herbicide* *resistance* and insect *resistance* may also be conferred using the vector. (131pp)

DESCRIPTORS: tobacco vector plasmid pSBL-series-mediated heterologous gene transfer, expression in transgenic plant chloroplast, appl. recombinant protein prep. e.g. insulin, protein polymer, *herbicide* *resistance*, insect *resistance* cloning Nicotiana tabacum hormone peptide pesticide resistance disease-resistance crop improvement DNA sequence (Vol.18, No.11)

7/3,K/12 (Item 5 from file: 357)

DIALOG(R)File 357:Derwent Biotechnology Abs

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0199867 DBA Accession No.: 96-10047

Transformation of the tobacco chloroplast genome with the aroA gene to confer glyphosate tolerance- plasmid pZS-RD-EPSPC construction for EPSP-synthase gene transfer to transgenic tobacco for *herbicide* *resistance* (conference abstract)

AUTHOR: Datta R; Daniell H

CORPORATE AFFILIATE: Univ.Auburn

CORPORATE SOURCE: Molecular Genetics Program, Department of Botany and Microbiology, Auburn University, Auburn, AL 36849-5407, USA.

JOURNAL: Plant Physiol. (111, 2, Suppl., 168) 1996

ISSN: 0032-0889 CODEN: PLPHAY

CONFERENCE PROCEEDINGS: Plant Biology '96; 1996 Annual Meeting of the American Society of Plant Physiologists, San Antonio, TX, 27 July-2 August, 1996.

LANGUAGE: English

- plasmid pZS-RD-EPSPC construction for EPSP-synthase gene transfer to transgenic tobacco for *herbicide* *resistance* (conference abstract)

...ABSTRACT: accD was constructed. The intergenic region of these genes has been used to stably integrate foreign genes in the tobacco (Nicotiana tabacum) chloroplast genome by *homologous* *recombination*. The aroA gene of EPSP-synthase was inserted downstream of aadA gene and upstream of psbA 3' region to obtain vector plasmid pZS-RD-EPSPS...

DESCRIPTORS: tobacco chloroplast transformation, EPSP-synthase aroA gene transfer, plasmid pZS-RD-EPSPS, appl. glyphosate *herbicide* *resistance* plant Nicotiana tabacum pesticide *resistance* P-pentavalent amino acid crop improvement (Vol.15, No.17)

7/3,K/13 (Item 6 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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0192604 DBA Accession No.: 96-02797 PATENT

**Positive-negative selection vectors- useful e.g. for gene therapy
especially of immunodeficiency diseases, and in the production of
transgenic plant with *herbicide*, insect and disease-*resistance***

AUTHOR: Capecchi M R; Thomas K R

CORPORATE SOURCE: Utah, USA.

PATENT ASSIGNEE: Univ.Utah-Res.Found. 1995

PATENT NUMBER: US 5464764 PATENT DATE: 951107 WPI ACCESSION NO.:
95-392614 (9550)

PRIORITY APPLIC. NO.: US 14083 APPLIC. DATE: 930204

NATIONAL APPLIC. NO.: US 14083 APPLIC. DATE: 930204

LANGUAGE: English

**- useful e.g. for gene therapy especially of immunodeficiency diseases, and
in the production of transgenic plant with *herbicide*, insect and
disease-*resistance***

...ABSTRACT: a target DNA sequence (I) contained in the genomes of mouse
embryonic stem (MES) cells, comprises: i. a 1st vector DNA sequence
(S1) capable of *homologous* *recombination* with a region of (I); ii.
a positive selectable marker DNA sequence (M+); iii. a 2nd homologous
vector DNA sequence (S2) capable of *homologous* *recombination* with a
2nd region of (I); and iv. a negative selectable marker DNA sequence
(M-) incapable of *homologous* *recombination* with (I); with the
spatial order of the sequences in the PNS vector being S1, M+, S2 and
M-. The 5'-3' orientation of S1...

... the 5'-3' orientation of the 1st region relative to the 2nd region of
the target sequence. The vector is capable of modifying (I) by
homologous *recombination* of S1 with the 1st region of (I) and of S2
with the 2nd region of (I). The method and vector are useful in gene...

... caused by mutations in the enzymes adenosine-deaminase and
purine-nucleotide-phosphorylase, alpha-1-antitrypsin, etc. Plant
genomes may also be modified, e.g. for *herbicide*, insect and disease-
resistance. (32pp)

DESCRIPTORS: pos., neg. selectable marker vector, target DNA sequence
modification, appl. immunodeficiency disease gene therapy, transgenic
plant construction with *herbicide* *resistance*, insect *resistance*,
disease-*resistance* pesticide resistance (Vol.15, No.5)

7/3,K/14 (Item 7 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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0170414 DBA Accession No.: 94-12965

**Recent development in yeast strains for baking- Saccharomyces cerevisiae
strain improvement by protoplast fusion or Saccharomyces uvarum MEL1
gene expression after transformation or *homologous* *recombination*
(conference paper)**

AUTHOR: Benitez T; Coddon A C; Gasent-Ramirez J M

CORPORATE AFFILIATE: Univ.Seville

CORPORATE SOURCE: Departamento de Genetica, Facultad de Biologia, Aptdo.
1095, Universidad de Sevilla, 41080-Seville, Spain.

JOURNAL: Prog.Biotechnol. (9, Pt.1, 613-22) 1994

CODEN: PBITE3

LANGUAGE: English

**- Saccharomyces cerevisiae strain improvement by protoplast fusion or
Saccharomyces uvarum MEL1 gene expression after transformation or
homologous *recombination* (conference paper)**

...ABSTRACT: developed to construct recombinant yeast devoid of plasmid

sequences. The method involved using a region of nonessential DNA from chromosome-XIII in which a sulfometuron *herbicide* *resistance* gene and a MEL1 gene were cloned. The transformants were stable and produced high levels of biomass. (9 ref)

DESCRIPTORS: yeast e.g. Saccharomyces cerevisiae strain improvement, protoplast fusion, Saccharomyces uvarum MEL1 gene expression, shuttle vector, *homologous* *recombination*, appl. baking ind. fungus (Vol.13, No.22)

7/3,K/15 (Item 8 from file: 357)

DIALOG(R)File 357:Derwent Biotechnology Abs
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0148938 DBA Accession No.: 93-06990 PATENT

Method for creating an inversion or deletion mutant in a plant- by integration of a maize chimeric Dissociation and Activator transposon vector into the genome and *homologous* *recombination*, for transgenic plant production

PATENT ASSIGNEE: Sticht.Phytogenet. 1993

PATENT NUMBER: WO 9306221 PATENT DATE: 930401 WPI ACCESSION NO.: 93-117542 (9314)

PRIORITY APPLIC. NO.: NL 911620 APPLIC. DATE: 910925

NATIONAL APPLIC. NO.: WO 92NL166 APPLIC. DATE: 920925

LANGUAGE: English

- by integration of a maize chimeric Dissociation and Activator transposon vector into the genome and *homologous* *recombination*, for transgenic plant production

...ABSTRACT: Agrobacterium tumefaciens T-DNA, with a bacterium replication origin and a selectable marker (e.g. chloramphenicol-resistance, beta-glucuronidase (EC-3.2.1.31), a *herbicide* *resistance* bar gene, an octopine TL-DNA tms2 gene, spectinomycin-resistance, kanamycin-resistance or hygromycin-resistance) incorporated into the transposon. (68pp)

DESCRIPTORS: transgenic plant deletion, inversion mutagenesis, non-autonomous maize chimeric Dissociation, Activator transposon, *homologous* *recombination*, selectable marker gene cloning expression chloramphenicol-resistance antibiotic-resistance beta-glucuronidase enzyme EC-3.2.1.31 *herbicide* *resistance* pesticide *resistance* bar gene octopine TL-DNA tms2 spectinomycin-resistance kanamycin-resistance hygromycin-resistance crop improvement transformation Zea mays Agrobacterium tumefaciens bacterium vector

7/3,K/16 (Item 9 from file: 357)

DIALOG(R)File 357:Derwent Biotechnology Abs
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0095827 DBA Accession No.: 89-13818

Progress in plant protoplast research- protoplast culture, protoplast fusion, gene transmission, cell sorting, etc.; review (conference paper)

AUTHOR: Potrykus I

CORPORATE SOURCE: Institut fuer Pflanzenwissenschaften, ETH-Zentrum, CH-8092 Zuerich, Switzerland.

JOURNAL: Progr.Plant Protoplast Res. (1-5) 1988

CODEN: 9999X

LANGUAGE: English

...ABSTRACT: e.g. recombination between chondriomes in fusion hybrids, recombination between plastidomes, somatic cell hybridization; (d) protoplast fusion: application e.g. transfer of male sterility, pathogen *resistance*, *herbicide* *resistance*, recovery of synthetic hybrids in Brassica; (e) transfer of partial genomes e.g. cybridization, microfusion development; (f) mutants and variants e.g.

nitrate-reductase (EC-1.7.99.4)-deficient mutants in Nicotiana plumbaginifolia, temp.-sensitive auxine auxotrophs; (g) stable gene transfer e.g. electroporation, microinjection, *homologous* *recombination*; (h) transient gene transfer e.g. electroporation; (i) cell sorting e.g. fluorescence-activated cell sorting, automation; and (j) physiology and fundamental research. (28 ref)

7/3,K/17 (Item 10 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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0079437 DBA Accession No.: 88-10286 PATENT
New synthetic gene for resistance to phosphinothricin- optimized for expression of *herbicide* *resistance* in plants by appropriate selection of codons
PATENT ASSIGNEE: Hoechst 1988
PATENT NUMBER: DE 3701623 PATENT DATE: 880804 WPI ACCESSION NO.: 88-220821 (8832)
PRIORITY APPLIC. NO.: DE 3701623 APPLIC. DATE: 870121
NATIONAL APPLIC. NO.: DE 3701623 APPLIC. DATE: 870121
LANGUAGE: German

- optimized for expression of *herbicide* *resistance* in plants by appropriate selection of codons
ABSTRACT: A new gene (I) for *resistance* to *herbicide* phosphinothricin (PTC) contains codons which are suited to expression by plants. The natural resistance gene from Streptomyces viridiochromogenes DSM 40736 is modified by (i) changing...

... of the 35S cauliflower-mosaic virus promoter and ligated into E. coli vector pMPK110. The gene is transferred into Agrobacterium tumefaciens Ti plasmid pGV3850K by *homologous* *recombination*. The recombinant Ti plasmid is used to transform plants by the leaf-disk method. Developing shoots are tested for kanamycin *resistance* and regenerated into complete, *herbicide* resistant plants. (7pp)

DESCRIPTORS: Streptomyces viridiochromogenes phosphinothricin *herbicide* *resistance* gene synth., optimized codon usage, gene transmission, expression in transgenic plant, Agrobacterium tumefaciens Ti plasmid vector, DNA sequence bacterium pesticide resistance bacterium crop improvement

7/3,K/18 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
(c) 2001 AMERICAN CHEMICAL SOCIETY. All rts. reserv.

134291078 CA: 134(21)291078t PATENT
Gene targeted site-directed mutagenesis in plants by electroporation of mixed duplex oligonucleotide into microspores and use thereof
INVENTOR(AUTHOR): Beetham, Peter; Avissar, Patricia; Walker, Keith
LOCATION: USA
ASSIGNEE: Valigen, Inc.
PATENT: PCT International ; WO 0125460 A2 DATE: 20010412
APPLICATION: WO 2000US27870 (20001006) *US PV158033 (19991007) *US PV173555 (19991230)
PAGES: 47 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12N-015/82A; A01H-005/00B; C12N-015/10B DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ; CA; CH; CN; CR; CU; CZ; DE; DK; DM; DZ; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; MZ; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UG; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG

7/3,K/19 (Item 2 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
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134261839 CA: 134(19)261839z PATENT
Targeted removal of attP-flanked selectable marker gene from a transgenic plant by inducing intrachromosomal homologous recombination
INVENTOR(AUTHOR): Meyer, Peter; Zubko, Elena
LOCATION: UK,
ASSIGNEE: University of Leeds
PATENT: PCT International ; WO 0121780 A2 DATE: 20010329
APPLICATION: WO 2000GB3543 (20000915) *GB 9921937 (19990917)
PAGES: 25 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12N-015/00A
DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CR; CU; CZ; DE; DK; DM; DZ; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; MZ; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UG; US; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW ; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG

7/3,K/20 (Item 3 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
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130219137 CA: 130(17)219137m PATENT
Universal chloroplast integration and expression vectors, transformed plants and their products
INVENTOR(AUTHOR): Daniell, Henry
LOCATION: USA
ASSIGNEE: Auburn University
PATENT: PCT International ; WO 9910513 A1 DATE: 19990304
APPLICATION: WO 98IB1199 (19980805) *US 55314 (19970807) *US 79042 (19980323)
PAGES: 131 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12N-015/82A; A01H-005/00B DESIGNATED COUNTRIES: AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CU; CZ; DE; DK; EE; ES; FI; GB; GE; GH; GM; HR; HU; ID; IL; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; UA; UG; US; UZ; VN; YU; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH ; GM; KE; LS; MW; SD; SZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG

7/3,K/21 (Item 4 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
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112071655 CA: 112(9)71655j PATENT
Use of homologous recombination to target the insertion of genes into plant genomes
INVENTOR(AUTHOR): Paszkowski, Jerzy; Baur, Markus; Potrykus, Ingo
LOCATION: Switz.
ASSIGNEE: Ciba-Geigy A.-G.
PATENT: European Pat. Appl. ; EP 317509 A2 DATE: 890524
APPLICATION: EP 88810762 (881108) *CH 874453 (871116)
PAGES: 23 pp. CODEN: EPXXDW LANGUAGE: German CLASS: C12N-015/00A; C12N-001/20B; C12N-005/00B; A01H-001/00B DESIGNATED COUNTRIES: AT; BE; CH; DE; ES; FR; GB; GR; IT; LI; LU; NL; SE

7/3,K/22 (Item 1 from file: 434)
DIALOG(R)File 434:SciSearch(R) Cited Ref Sci

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09668163 Genuine Article#: AM036 No. References: 181

Title: BIOTECHNOLOGY - THE GOLDEN-AGE

Author(s): MALIK VS

Corporate Source: PHILLIP MORRIS INC/RICHMOND//VA/23261

Journal: ADVANCES IN APPLIED MICROBIOLOGY, 1989, V34, P263-306

Language: ENGLISH Document Type: REVIEW

...Research Fronts: MICE; EXPRESSION OF THE C-MYC ONCOGENE; PANCREATIC ELASTASE-I GENE)

87-0817 001 (INHIBITION OF THE BRANCHED-CHAIN AMINO-ACID BIOSYNTHETIC ENZYME ACETOLACTATE SYNTHASE; *HERBICIDE* *RESISTANCE*; SOYBEAN METABOLISM)

87-2156 001 (*HOMOLOGOUS* *RECOMBINATION* IN YEAST; GENE DISRUPTION; PLASMID CONSTRUCTION)

87-3739 001 (PULSED FIELD GEL-ELECTROPHORESIS; LARGE DNA SEPARATION; MOLECULAR KARYOTYPE; AMPLIFIED GENES)

7/3,K/23 (Item 2 from file: 434)

DIALOG(R)File 434:SciSearch(R) Cited Ref Sci

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08656392 Genuine Article#: M4868 No. References: 40

Title: A CONVENIENT DOMINANT SELECTION MARKER FOR GENE-TRANSFER IN INDUSTRIAL STRAINS OF SACCHAROMYCES YEAST - SMRI ENCODED *RESISTANCE* TO THE *HERBICIDE* SULFOMETURON METHYL

Author(s): CASEY GP; XIAO W; RANK GH

Corporate Source: UNIV SASKATCHEWAN,DEPT APPL MICROBIOL & FOOD SCI,FOOD BIOTECHNOL GRP/SASKATOON S7N 0W0/SASKATCHEWAN/CANADA/; UNIV SASKATCHEWAN,DEPT BIOL/SASKATOON S7N 0W0/SASKATCHEWAN/CANADA/

Journal: JOURNAL OF THE INSTITUTE OF BREWING, 1988, V94, N2, P93-97

Language: ENGLISH Document Type: ARTICLE

Title: A CONVENIENT DOMINANT SELECTION MARKER FOR GENE-TRANSFER IN INDUSTRIAL STRAINS OF SACCHAROMYCES YEAST - SMRI ENCODED *RESISTANCE* TO THE *HERBICIDE* SULFOMETURON METHYL

Research Fronts: 86-2158 002 (2-MU-M CIRCLE OF SACCHAROMYCES-CEREVISIAE; SINGLE YEAST GENE; MITOTIC CHROMOSOME TRANSMISSION; *HOMOLOGOUS* *RECOMBINATION*)

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